

Acc. Nr:

AP0046354

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Ref. Code: UR0000

PRIMARY SOURCE: Razdel V, Ionosfernyye Issledovaniya, 1970,
Nr 19, pp 90-98

G. I. Gdaleyich Electric fields in ionosphere on the basis of some data of
rocket experiments

Some results are shortly described on investigations of electric fields in ionosphere with the help of some instruments installed in rockets and sputniks. Some difficulties are discussed preventing one from carrying out such investigations. A principle of operation of instruments and their peculiarities, connected with operation in ionosphere plasma are shortly considered. It is shown that to determine tension of electric field in ionosphere it is necessary to measure surfaces of rockets in two diametrically opposite points. A field in three mutually perpendicular directions should be measured for determination of a full vector of tension. Values E_{\perp} (10^{-3} v/cm) and E_{\parallel} (10^{-4} v/cm) obtained as a result of experiments in 1959—1964 exceed values usually indicated in literature for middle latitudes.

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REEL/FRAZE
19781519

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USSR

UDC: 51:330.115

GDALEVICH, S. S.

"Some Problems of Matching Cost Accounting Relationships Among Production Units"

V sb. Mat. metody issled. i optimizatsii sistem (Mathematical Methods of Studying and Optimizing Systems--collection of works), vyp. 5, Kiev, 1970, pp 100-112 (from RZh-Kibernetika, No 7, Jul 71, Abstract No 7V639)

Translation: An attempt is made to use dual estimates of linear programming for solving the problem of organizing cost accounting relationships between a plant (enterprise) as a supplier of intermediate goods, and plants (enterprises) as producers of finished goods. M. Popov.

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ANC0012919

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UR9027

AUTHOR-- RUMYANTSEV, I., DIRECTOR, SCIENTIFIC-RESEARCH INSTI-
TUTE OF CHEMICAL MACHINE CONSTRUCTION /SRICM/

TITLE-- THE EFFECT OF RESEARCH

NEWSPAPER-- VECHERNYAYA MOSKVA, JANUARY 13, 1970, P 2, COLS 2-5

ABSTRACT-- THE ARTICLE IS A VERY BRIEF REVIEW OF THE ACTIVITIES OF THE SRICM. THE INSTITUTE IS THE LEADING ORGANIZATION IN THE FIELD OF MACHINE DESIGN FOR CHEMICAL INDUSTRY. IT GUIDES THE TECHNOLOGICAL POLICIES AND COORDINATES THE EFFORTS OF OTHER INSTITUTES AND PLANTS. THE FOLLOWING STAFF MEMBERS OF THE INSTITUTE ARE MENTIONED AS ACHIEVERS-- R. KAZAKOV, S. GDALIN, V. SEMENOV, YU. KIPRIANOV, YE. CHUVPILLO, AND V. ZAVAROV. ALL ARE MEMBERS OF THE COMMUNIST PARTY.

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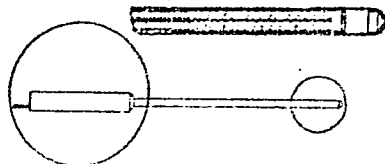
UDC: 615.473.9:615.832.9

SHAL'NIKOV, A. I., ZYUKIN, N. A., GDOVSKIY, V. A., LUR'YE, Yu. Yu., MASLOV, F. M., FREYDOVICH, A. I., Institute of Physical Problems imeni S. I. Vavilov

"A Device for Directional Freezing of Tissues"

Moscow, Otkrytiya, Izobreteniya, Promyshlennyye Obraztsy, Tovarnyye Znaki, No 12, Apr 72, Author's Certificate No 333951, Division A, filed 11 Nov 70, published 30 Mar 72, p 19

Translation: This Author's Certificate introduces a device for directional freezing of tissues which contains a vacuum-insulated vessel holding two parallel tubes for delivery and removal of a cooling agent. The device also contains a heat-insulation liner, a charcoal getter and a tip. As a distinguishing feature of the patent, in order to freeze tissues arranged eccentrically relative to the longitudinal axis of the device, a wire helix with high heat conductivity is placed in fixed contact with the tip.



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USSR

UDC 533.9.082.5

BORODIN, V. S., GEBEKOV, V. D., GINDINA, V. F., KAGAN, Yu. M.

"Diagnostics of the Plasma of a Pulse Discharge in Hydrogen,
Part II"

Leningrad, Optika i Spektroskopiya, No 1, Jan 72, pp 17-21

Abstract: As indicated in the title, this article is the second part of a paper begun in volume 31, 1971, p 525. The first part dealt with the theory of plasma diagnostics; the present half is concerned with the experimental verification of the theoretical conclusions derived. For these experiments, the authors used a pulse discharge in a chamber made of 4-cm thick plexiglass, measuring 20 cm on a side, the chamber being cubic in shape. The electrodes were tungsten rings with an inner diameter of 0.7 cm, placed 1.2 cm apart in the chamber. Quartz windows were set in both sides of the chamber for the purposes of observation. The hydrogen filling the chamber had a pressure of 400-760 mm Hg, and

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BORODIN, V. S. et al, Optika i Spektroskopiya, No 1, Jan 72,
pp 17-21

the discharge in the chamber was made with a capacitor of 72 μ F charged from a rectifier. Diagrams of the equipment are given, as well as pulse-shape photographs. A table of electron concentrations measured in accordance with a method described in the first half of the article is provided.

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USSR

UDC 533.9

BORODIN, V. S., GEBEKOV, V. D., and KAGAN, Yu. M.

"Diagnosis of a Plasma With Pulse Discharges in Hydrogen"

Leningrad, Optika i Spektroskopiya, Vol 31, No 4, 1971, pp 525-528

Abstract: This is the first of a series of articles. In this particular installment, the question of determining the electron concentration in a plasma is examined by considering pulse discharges in hydrogen. The assumption is made that the plasma is in a state of local thermodynamic equilibrium so that a set of three equations for the electron, ion, and atom concentrations in the normal state; for the pressure of the gas; and for the intensity of the hydrogen line applicable for such a state can be used. The further assumption is made that the pressure of the hydrogen is constant and that the plasma is quasi-neutral, thus assuming that the electron and ion concentrations are equal. Formulas are developed for the intensity distribution of the hydrogen line as a function of time, and an expression is found through which the initial electron concentration can be found simply by measuring the relative course of the intensity at the center of the line and the half-width averaged over the time interval.

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1/2 022 UNCLASSIFIED PROCESSING DATE--23OCT70
TITLE--THE PARTICIPATION OF THE LUNGS IN FIBRINOLYTIC PROCESSES OF THE
ORGANISM -U-
AUTHOR--(05)-SOLOVYEV, G.M., GUSEYNOV, CH.S., GEBEL, G.YA., CHISTYAKOV,
V.N., FLEROV, YE.V.
COUNTRY OF INFO--USSR
SOURCE--BYULLETEN' EKSPERIMENTAL'NOY BIOLOGII I MEDITSINY, 1970, VOL 69,
NR 5, PP 22-25
DATE PUBLISHED-----70

SUBJECT AREAS--BIOLOGICAL AND MEDICAL SCIENCES

TOPIC TAGS--LUNG, BLOOD VESSEL, LACTIC ACID, INTRAVENOUS PERFUSION,
ACIDOSIS, FIBRINOLYSIS

CONTROL MARKING--NO RESTRICTIONS

DOCUMENT CLASS--UNCLASSIFIED

PROXY REEL/FRA--1998/0369

STEP NO--UR/0219/70/069/005/0022/0025

CIRC ACCESSION NO--AP0121057

UNCLASSIFIED

2/2 022

CIRC ACCESSION NO--AP0121057

UNCLASSIFIED

PROCESSING DATE--23OCT70

ABSTRACT/EXTRACT--(U) GP-0-

ABSTRACT.

IN EXPERIMENTS ON DOGS THE AUTHORS STUDIED THE REACTION OF PULMONARY VESSELS TO THE ADMINISTRATION OF A 30PERCENT SOLUTION OF LACTIC ACID WHICH CAUSES SPASM OF PULMONARY VESSELS AND A STATE OF METABOLIC ACIDOSIS. IT IS SHOWN THAT IN THE BLOOD OUTFLOWING FROM THE LUNGS THE CONTENT OF FIBRINOLYSIS PROACTIVATORS AND FIBRINOLYTIC ACTIVITY ARE GHIGHER IN COMPARISON WITH THOSE IN THE BLOOD INFLOWING TO THE LUNG. FACILITY: SCIENTIFIC RESEARCH INSTITUTE OF CLINICAL AND EXPERIMENTAL SURGERY, MOSCOW.

UNCLASSIFIED

USSR

UDC 621.762.3:669.2

GEDBERG, M. G., GRISHINA, A. I.

"Effect of Deoxidizing Additives and Preliminary Annealing During Impact Compacting of Iron Powder"

V sb. Metallovedeniye i prochnost' materialov. T. 3 (Physical Metallurgy and Materials Strength. Vol 3 -- collection of works), Volgograd, 1971, pp 294-302 (from RZh--Metallurgiya, No 4, Apr 72, Abstract No 4G407)

Translation: A study was made of the effect of complete reduction of Fe powder on the properties of briquettes obtained by impact compacting. Complete reduction of the powder reduces the hardness and increases the plasticity of the briquettes. Better results were obtained on complete reduction of the Fe-powder containing 0.1% C and 0.5% urea. Five illustrations, 1 table, and a 3-entry bibliography.

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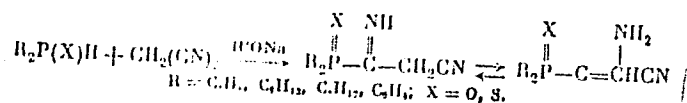
UDC 547.26'118

PUDOVIK, A. N., SUDAKOVA, T. M., RAYEVSKAYA, O. YE., and GEDECHKINA, V. A.,
Kazan State University imeni V. I. Ul'yanova-Lenina

"Reactions of Phosphonous Acids with the Malononitrile"

Leningrad, Zhurnal Obshchey Khimii, Vol 42(104), No 8, 1972, pp 1727-1730

Abstract: On the basis of the rather large reactivity of the dialkyl- and diarylphosphonous acids, a study was made of the addition of diphenyl, dibutyl-, dihexyl-, and dioctylphosphonic acids to malononitrile. Heating a mixture of the phosphonic acids with malononitrile in benzene or hexane to 80°C for 2-3 hours resulted in the following reaction:



Both a 1:1 mixture of the reagents and a mixture containing an excess of the phosphonous acid resulted in a product containing 1 atom of each reactant. IR spectra indicate that the simple addition product undergoes imino-amino tautomerization, as in the above equation, and also intermolecular hydrogen bonding.

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1/2 015

UNCLASSIFIED

PROCESSING DATE--30OCT70

TITLE--RESULTS OF TESTING METHODS FOR DETERMINATION OF GASES IN
FERROCHROMIUM -U-

AUTHOR--(03)-SHITIKOV, V.S., GEDEREVICH, N.A., SHULTE, YU.A.

COUNTRY OF INFO--USSR

SOURCE--ZAVOD. LAB. 1970, 36(2), 149-50

DATE PUBLISHED-----70

SUBJECT AREAS--MATERIALS

TOPIC TAGS--FERROCHROMIUM, GAS CONTAINING METAL, METAL CONTAINING GAS,
FERROALLOY, OXYGEN, NITROGEN, HYDROGEN

CONTROL MARKING--NO RESTRICTIONS

DOCUMENT CLASS--UNCLASSIFIED

PROXY REEL/FRA--1999/1054

STEP NO--UR/0032/70/036/002/0149/0150

CIRC ACCESSION NO--AP0123047

UNCLASSIFIED

2/2 015

UNCLASSIFIED

PROCESSING DATE--30OCT70

CIRC ACCESSION NO--AP0123047

ABSTRACT/EXTRACT--(U) GP-0- ABSTRACT. RESULTS OF ANALYZING FERROCHROMIUM FOR GASES V. S. SHITIKOV, AND N. A. GEDEREVICH, 1967) WERE NOT CONSISTENT BECAUSE OF INHOMOGENEITY OF SAMPLES. FERROCHROMIUM SAMPLES, (CONTG. 0.06PERCENT C, 0.6PERCENT SI, 70.9PERCENT CR), WERE SENT TO SEVEN DIFFERENT LABS. ABS. DEVIATIONS WERE 0.01PERCENT, 0.003PERCENT, AND 2.0 CM PRIME3-100 G FOR O, N, AND H, RESP. MEAN RELATIVE DEVIATIONS WERE 12.0, 21.1, AND 25.5PERCENT, RESP.; THE MAX. TO MIN. RESULT RATIOS WERE 1.5, 3.0, AND 7.5, RESP. FACILITY: ZAPOROZH. MASHINOSTROIT. INST., ZAPOROZHE, USSR.

UNCLASSIFIED

1/2 010 UNCLASSIFIED
TITLE--GAS CONTENT OF FERROMANGANESE -U-
AUTHOR--SHITIKOV, V.S., GEDERVICH, N.A.
COUNTRY OF INFO--USSR
SOURCE--LITENOE PROIZVOD. 1970, (1), 41-2
DATE PUBLISHED-----70
SUBJECT AREAS--MATERIALS
TOPIC TAGS--FERROMANGANESE, IRON ALLOY, GAS CONTAINING METAL, METAL
CONTAINING GAS, HIGH MANGANESE STEEL, AUSTENIC STEEL, CAST STEEL, ALLOY
DESIGNATION/(U)G13L CAST MANGANESE STEEL
CONTROL MARKING--NO RESTRICTIONS
DOCUMENT CLASS--UNCLASSIFIED
PROXY REEL/FRAE--1988/1317 STEP NO--UR/0128/70/000/001/0041/0042
CIRC ACCESSION NO--AP0106094
UNCLASSIFIED

2/2 010 UNCLASSIFIED PROCESSING DATE--11SEP70
CIRC ACCESSION NO--AP0106094
ABSTRACT/EXTRACT--(U) GP-0- ABSTRACT. ON THE BASIS OF OVER 500 ANAL. OF
GASES IN FE,MN ALLOYS THE FOLLOWING INTERRELATIONS WERE DETD: WITH
INCREASING SI CONCN. THE O CONCN. DECREASED. WITH INCREASING CONCN. OF
C 1.0-7.0PERCENT THE O CONCN. DROPPED ON THE AV. FROM 0.026 TO
0.012PERCENT. DEOXIDN. WITH AL IS NOT ALWAYS COMPLETELY EFFECTIVE WITH
FE,MN BECAUSE MN HAS A VERY HIGH AFFINITY FOR O. FOR THIS REASON IT IS
RECOMMENDED TO EMPLOY STRONG DEOXIDIZING CONDITIONS WHEN MELTING HIGH MN
STEELS (LIKE G13L) IN ORDER TO ELIMINATE THE EFFECT OF THE HIGH DEGREE
OF OXIDN. OF THE ORIGINAL FE,MN.

UNCLASSIFIED

USSR

UDC: 621.375.121

LEKISHVILI, K. M., AZIDZIGURI, A. A., KHAZARADZE, O. L., GEDEVANISHVILI, G. S.,
ANDREYEVSKIY, YU. S., PEREGUDOV, V. P., Tbilisi Department, Electrotechnical
Scientific Research Institute

"A Transistorized Wide-Band Nanosecond Pulse Amplifier"

Moscow, Priory i Tekhnika Eksperimenta, No 2, Mar/Apr 70, pp 129-131

Abstract: A wide-band nanosecond pulse amplifier is described with a gain of 40 DB, a frequency band of 10-120 MHz, nonuniformity of no more than 1.5 DB in frequency response, sensitivity of 0.5 mV, signal-to-noise ratio of 25, input impedance of 75 ohms, and output impedance of 50 ohms. The proposed amplifier may be used in time-interval selector circuits, time-amplitude converters, nuclear radiation detectors (where it is used as a preamplifier), time and amplitude devices, etc.

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USSR

UDC 621.355.8.035.2

SHURVALOVA, I. N., GEDOROVA, T. V., and ARKHANGEL'SKAYA, Z. P.,

"Anode Process on a Silver-Oxygen Electrode of Silver Cadmium Batteries"

Sb. rabot no khim. istochnikam toka. Vses. n.-n akkumulyator in-t (Collection of Works on the Chemical Source of Current. All-Union Scientific Study Institute for Storage Batteries), Vyp 7, 1972, pp 171-174 (from Referativnyy Zhurnal -- Khimiya, No 8(II), 1973, Abstract No 81242)

Translation: A study was made of the features of the anode process on a AgO electrode, prepared from the application of active materials of different sizes. For a large depth of oxidation the fine grained active part in the first potential step of the discharge into the electrode in the second step results in the increase in the potential and is accompanied by the evolution of small amounts of O₂. By measuring the increase in the work time, basic and secondary processes may be separated.

USSR

MANDEL'BAUM, YA. A., ABRAMOVA, G. L., MEL'NIKOV, N. N., GEDOSEYENKO, L. G.,
GOLUBEVA, Z. Z., and ANDREYEVA, YE. I.

"Amides of O-Alkyl-S-alkyldithiophosphoric Acid -- Novel Organophosphoric
Pesticides with Fungicidal and Insecticidal Properties"

V sb. Khim. sredstva zashchity rast. (Chemical Plant Protective Agents --
collection of works), No 2, Moscow, 1972, pp 205-209 (from RZh-Khimiya, No 19,
Oct 73, Abstract No 19N525)

Translation: Studying the effect of the thiol radical on pesticidal properties
of various compounds, a series of amides with the general formula $(RO)(R'S)P$
(S)NHR" (I) has been synthesized (R=Me, Et, Pro; R'=Pro, iso-Pro, But;
R"=Me, Et, Pro, iso-Pro, iso-But). Toxicological evaluation showed I to
exhibit fungicidal properties. Contact insecticidal activity of I is much
weaker than the contact insecticidal activity of known preparations.

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USSR

GEDRIMOVICH, G. V.; ZIL'BERMINTS, L. V.

"Extent of Coverage and Criteria for Selection of World Literature for Current Bibliographies"

Moscow, Nauchno-Tekhnicheskaya Informatsiya: Seriya 1 - Organizatsiya i Metodika Informatsionnoy Raboty; March, 1972; pp 29-35

ABSTRACT: The article concerns the procedure and findings of a study the purpose of which was to determine the extent of coverage of journals, principles of selection, and duplication in the leading bibliographic aids in metallurgy. The authors identify the periodicals that are covered by all the sources under study and the metallurgical journals not covered in all the bibliographies. The periodicals were divided into four groups, and the average number of articles in each group was determined. The number of articles published in 20 leading metallurgical journals and the journals of the different groups was determined and compared with data on the coverage of these articles in the bibliographies.

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GEDRIMOVICH, G. V., ZIL'BERMINTS, L. V., Nauchno-Tekhnicheskaya Informatsiya:
Seriya 1 - Organizatsiya i Metodika Informatsionnoy Raboty; March, 1972;
pp 29-35

The authors listed by subject, type, language, and geography the coverage typical of all the secondary sources analyzed as well as the essential differences in the coverage of Soviet and foreign journals for all four groups. This means that when one needs optimal bibliographic data, he must turn to all current bibliographies under study; in practice, however, the various indicators obtained (type of publication, country, language, subject, extent of coverage, etc.) can be used as the bibliographic data.

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CSO: 1863-W

- 88 -

USSR

UDC 621.791.011

KASATKIN, B. S., Doctor of Technical Sciences, TSARYUK, A. K.,
Candidate of Technical Sciences, and GEDROVICH, A. I., Engineer,
Institute of Electric Welding imeni Ye. O. Paton, Academy of Sci-
ences Ukrainian SSR

"Yield Bands in a Weld Joint"

Kiev, Avtomaticheskaya Svarka, No 6 (243), Jun 73, pp 1-4

Abstract: The authors study the features of the arrangement of yield bands in the zone of the joint near the seam. They show that weld heating leads to the formation of yield bands of various types. The plastic deformation of the metal in the zone near the seam has a three-dimensional character and the yield bands emerge on its surface. The character of the yield bands in this zone is determined by the stressed state. Under the effect of biaxial stresses of one sign, radial and transverse bands are generated as well as concentric circles (arcs). Bands of the type of logarithmic spirals and parabolas appear in the presence

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USSR

KASATKIN, B. S., et al., *Avtomaticheskaya Svarka*, No 6(243), Jun 73, pp 1-4

of tensile and compressive stresses. The formation in this zone of different systems of yield bands indicates that plastic deformation takes place successively in several stages in the process of heating and cooling. The article contains 4 figures and 8 bibliographic references.

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USSR

UDC: 621.319.4

GEDZYUN, V. A., SEMENOV, A. I.

"Future Possibilities of Nondestructive Methods of Checking the Working Capacity of High-Voltage Ceramic Capacitors"

Elektron. tekhnika. Nauch.-tekhn. sb. Radiodetali (Electronic Technology. Scientific and Technical Collection. Radio Components), 1970, vyp. 4(21), pp 19-26 (from RZh-Radiotekhnika, No 5, May 71, Abstract No 5V321)

Translation: It is shown that it is possible in principle to predict the working capacity of high-voltage ceramic capacitors. Two methods are proposed for nondestructive quantitative inspection. Resumé.

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USSR

UDC: 621.319.4

GEDZYUN, V. A., SEMENOV, A. I.

"A Study of the Relationship Between the Voltage at the Start of Partial Discharges in the Dielectric and Dielectric Losses in High-Voltage Ceramic Capacitors"

Elektron. tekhnika. Nauch.-tekhn. sb. Radiodetali (Electronic Technology. Scientific and Technical Collection. Radio Components), 1970, vyp. 4(21), pp 11-18 (from RZh-Radiotekhnika, No 5, May 71, Abstract No 5V320)

Translation: It is shown that there is a relationship between the voltage at the beginning of partial discharges and energy losses in the dielectric of high-voltage ceramic capacitors measured on low voltages. It is shown how the voltage at the beginning of partial discharges affects the temperature of the dielectric in the capacitor during operation in the high-frequency mode. Resumé.

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ELECTRICAL ENGINEERING

Circuit Elements

USSR

UDC 621.396.69:621.319.1

BOGORODITSKIY, N. P., GEDZYUN, V. A., MANDRYKA, N. A.

"High-Voltage Ceramic Capacitors"

Vysokovol'tnyye keramicheskiye kondensatory (cf. English above), Moscow, "Sov. radio", 1970, 207 pp, ill. 53 k. (from RZh-Radiotekhnika, No 10, Oct 70, Abstract No 10V330 K)

Translation: The book deals with problems connected with the design of high-voltage ceramic capacitors. Also given are the results of studies of the electrophysical properties of the radio ceramic used as the dielectric in these capacitors. Chapter 1 takes up problems of electrical conductivity, polarization and losses in ceramic materials, chapter 2 deals with problems of the electrical strength of radio ceramic material and possible mechanisms of material fracture. The mechanical strength of radio ceramic materials is described in chapter 3. Chapter 4 contains a description of procedures for testing parts made from radio ceramic, and the equipment used in these tests. Chapter 5 outlines the elements of calculating individual capacitors, constructing series of capacitors, and also information on existing fixed ceramic capacitors for high working voltages. The book is written for engineers and technicians employed in the development and manufacture of high-voltage ceramic capacitors, radio electronic power equipment, and also for students and teachers in electronics academies. 93 illustrations, 45 tables, bibliography of 69 titles. Resumé.

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USSR

UDC 616.981.452-034.47

AGAFONOV, V. I., BABKIN, Ye. I., VDOVIN, D. G., VOROBYKHNIKOV, V. M.,
VOROB'YEV, A. A., GAISESHKO, Kh. P., GAPOCHKO, K. G., GEFEN, N. Ye., YEVSTIGNEYEV,
V. I., YEMEL'YANOVA, O. V., ZENSKOV, Ye. M., IKAMALIYEV, O. G., KAMALOV, I. I.,
KVIRIKADZE, V. V., KUTYREV, P. A., MISNIKOV, O. P., PUSHKAREV, V. P., and
ROZDESTVENSKIY, D. A., Military Medical Academy imeni S. M. Kirov, Leningrad

"A Comparative Efficiency Characteristic of Different Immunization Methods
Against Plague Infection"

Moscow, Zhurnal Mikrobiologii Epidemiologii i Immunobiologii, No 11, 1972,
pp 106-112

Abstract: Analysis of the available literature data led to the conclusion
that oral, aerogenic, and jet immunization methods are the most efficient
compared with subcutaneous and skin methods. The average number of patients
inoculated against plague infection was 517, 817 (419), and 937 per hr for jet
injectors, aerogenic method liquid and dry vaccine, and oral method (tablets),
respectively, compared with only 43 and 28 for the subcutaneous and skin
methods, respectively.

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1/2 021 UNCLASSIFIED PROCESSING DATE--16OCT70
TITLE--AEROSOL REVACCINATION WITH TYPHOID BOTULINUM A AND B TRIVACCINE AND
WITH TYPHOID TETANUS BOTULINUM A AND B TETRAVACCINE UNDER EXPERIMENTAL
AUTHOR--(05)-ALEKANDROV, N.I., GEFEN, N.YE., YEGOROVA, N.B., YEFREMOVA,
V.N., VORONTSOV, I.V.
COUNTRY OF INFO--USSR
SOURCE--ZHURNAL MIKROBIOLOGII, EPIDEMIOLOGII I IMMUNOBIOLOGII, 1970, NR 5,
PP 84-89
DATE PUBLISHED-----70

SUBJECT AREAS--BIOLOGICAL AND MEDICAL SCIENCES

TOPIC TAGS--AEROSOL VACCINE, TYPHOID FEVER VACCINE, IMMUNIZATION,
BUTULISM, TETANUS

CONTROL MARKING--NO RESTRICTIONS

DOCUMENT CLASS--UNCLASSIFIED

PROXY REEL/FRAE--1994/0151

STEP NO--UR/0016/70/000/005/0084/0089

CIRC ACCESSION NO--AP0114547

UNCLASSIFIED

2/2 021

UNCLASSIFIED

PROCESSING DATE--16OCT70

CIRC ACCESSION NO--AP0114547

ABSTRACT/EXTRACT--(U) GP-0- ABSTRACT. A STUDY WAS MADE OF THE POSSIBILITY OF INDUCTION OF INTENSE IMMUNITY AGAINST BOTULISM, TYPES A AND B, AND TETANUS FOLLOWING SINGLE AEROSOL REVACCINATION WITH ASSOCIATED PREPARATIONS. RABBITS AND GUINEA PIGS WHICH WERE VACCINED TWICE WITH SEXTATOXOID OF THE KHARKOV INSTITUTE OF VACCINE AND SERA 5 TO 6 MONTHS BEFORE WERE SUBJECTED TO REVACCINATION. AEROSOL REVACCINATION WITH TYPHOID BOTULINUM A AND B TRIVACCINE, AND WITH TYPHOID TETANUS BOTULINUM A AND B TETRAVACCINE PRODUCED A CONSIDERABLE ELEVATION OF THE LEVEL OF ANTITOXIN AGAINST ALL THE TOXOIDS INCLUDED INTO THE COMPOSITION OF THE VACCINES. REVACCINATED RABBITS PROVED TO BE RESISTANT TO ADMINISTRATION OF 500 DLM OF BOTULIN, TYPE A, AND OF 100 DIM OF TYPE B. THERE WAS ALSO AN ELEVATION OF THE TITRES OF TYPHOID O HEMAGGLUTININS IN RABBITS. FACILITY: MOSCOW INSTITUT VAKTSIN I SYYOROTOK IM. MECHNIKOVA.

UNCLASSIFIED

USSR

UDC 621.316.925

ZIL'BERMAN, V. A., GEFTER, G. S.

"Method of Continuous Checking of High-Frequency Relay Protection Channels"

USSR Author's Certificate No 310328, filed 5 May 69, published 21 Sep 71 (from RZh-- Avtomatika, Telemekhanika i vychislitel'naya tekhnika, No 4, Apr 72, Abstract No 4A549P)

Translation: A procedure is proposed for continuous automatic checking of high-frequency relay protection channels equipped with transponders operating on one quartz crystal frequency and control module. In order to increase the reliability, signals with a stepped-down level generated by the high-frequency transmitters of both stations are sent to the high-frequency channel continuously in the normal operating mode. In order to isolate the signals of the remote transmitter, the phase difference between the signals of the two transmitters is used, and the phase difference of the signals of our own transmitter entering the control module inputs is kept continuously equal to $\pi/2 \pm \pi$, and on disappearance of the signal at the output of any of the control modules, failure of the high-frequency channel is indicated. There are 2 illustrations.

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Acc. Nr.:

AP0046496

Ref. Code:

11R4274

USSR

UDC 629.01.02-094.37

6
GEFFER, P. I., LEVINT, E. G., Engineers, and POLONIN, E. A., Institute of Technical Sciences, All-Union Scientific Research Institute for Chemical Fiber Processing

"Low-Frequency Neutralizer of Static Electricity Charges"

Moscow, Proyshlennaya Energetika (Industrial Power Engineering), No 1, 1976, pp 28-31

Translation: Descriptions are given of the construction, electric circuit and operating principle of a new commercial-type low-frequency neutralizer. The question of selection of optimum discharger design parameters is examined, and a method is given for calculating the required working supply voltage. (3 illustrations, 10 biblioc. ref.)

Reel/Frame

19781749

1/2 039 UNCLASSIFIED PROCESSING DATE--27NOV70
TITLE--EXPANSION OF A RAREFIED PLASMA WITH TWO SPECIES OF IONS INTO A
VACUUM -U-
AUTHOR--GEFTER, V.M.

COUNTRY OF INFO--USSR

SOURCE--PMTF, ZHURNAL PRIKLAADNOI MEKHANIKI I TEKHNICHESKOI FIZIKI,
JAN.-FEB. 1970, P. 32-38
DATE PUBLISHED-----70

SUBJECT AREAS--PHYSICS

TOPIC TAGS--RAREFIED PLASMA, ION, WAVE PROPAGATION, ASYMPTOTIC SOLUTION,
DISTRIBUTION FUNCTION, TRANSPORT EQUATION

CONTROL MARKING--NO RESTRICTIONS

DOCUMENT CLASS--UNCLASSIFIED
PROXY REEL/FRAME--1994/0985

STEP NO--UR/0207/70/000/000/0032/0038

CIRC ACCESSION NO--AP0115006

UNCLASSIFIED

2/2 039

UNCLASSIFIED

PROCESSING DATE--27NOV70

CIRC ACCESSION NO--AP0115006

ABSTRACT/EXTRACT--(U) GP-0- ABSTRACT. INVESTIGATION OF ONE DIMENSIONAL EXPANSION OF A PLASMA OF VARIABLE TEMPERATURE WITH TWO SPECIES OF IONS INTO A VACUUM. IN A PLASMA WITH A MAXWELLIAN ION VELOCITY DISTRIBUTION THE PROPAGATION OF A RAREFACTION WAVE IS NOTED, THE BOUNDARY OF THIS WAVE BEING A WEAK DISCONTINUITY MOVING AT THE ION SOUND VELOCITY IN THE PLASMA. THE MAGNITUDE OF THIS VELOCITY IS A PLASMA OF THE TYPE CONSIDERED IS DETERMINED. PARTICULAR ATTENTION IS GIVEN TO DETERMINING THE FIRST TWO MOMENTS OF THE DISTRIBUTION FUNCTIONS, I.E., THE DISTRIBUTION FUNCTIONS OF THE MEAN VELOCITIES AND THE HEAVY PARTICLE DENSITIES. AN APPROXIMATE ASYMPTOTIC SOLUTION TO THE SYSTEM OF TRANSPORT EQUATIONS IS OBTAINED IN THE CASE WHERE THE MASSES OF BOTH ION SPECIES ARE ALMOST THE SAME, AND A NUMERICAL SOLUTION TO THIS SYSTEM OF EQUATIONS IS PRESENTED. A DETAILED ANALYSIS IS MADE OF CERTAIN FEATURES OF THE SOLUTIONS OBTAINED WHICH ARE FOUND TO BE CHARACTERISTIC OF A PLASMA CONTAINING ION SPECIES DIFFERING IN MASS.

UNCLASSIFIED

Polymers and Polymerization

1

USSR

UDC 638.632

PUCHKOVA, I. A., NININ, V. K., SHORYGINA, N. V., GEFTER, Ye. L., and
ZHURAVLEVA, L. S.

"A Method of Making Polymers Which Contain Phosphorus"

Moscow, Otkrytiya, Izobreteniya, Promyshlennyye Obraztsy, Tovarnyye Znaki,
No 36, 1971, Author's Certificate No 322347, Division C, filed 24 Jul 70,
published 30 Nov 71, p 55

Translation: This Author's Certificate introduces: 1. A method of making polymers which contain phosphorus and are based on phenol, formaldehyde and an organophosphorus compound. Synthesis is done by two-stage polycondensation of phenol with the phosphorus-containing compound in the presence of heat with subsequent treatment of the resultant product in formaldehyde at a temperature of up to 100°C. As a distinguishing feature of the patent, the fire resistance of the resins is improved by using di- $\beta\beta'$ -chloroethyl ether of vinylphosphonic acid (vinifos) as the phosphorus-containing compound, and carrying out the first stage of the reaction in an acid medium at 130-200°C for 3-7 hours. 2. A modification of this method distinguished by the fact that phenol and vinifos are taken in ratios from 1:2 to 1:4. 3. A modification of this method distinguished by the fact that the formaldehyde is taken in a ratio of 0.7-0.9 mole per mole of phenol.

1/1

USSR

UDC 678.742.2-9

POPOVA, A. I., SERENKOV, V. I., and GEFTER, YE. I.

"Radiation-Chemical Grafting of Organophosphorus Monomers Onto Polyethylene"

Moscow, Plasticheskiye Massy, No 11, 1971, pp 40-42

Abstract: The authors studied the radiation-chemical grafting of di(β -chloro-ethyl) ester of vinylphosphonic acid (vinyphos) onto polyethylene, as well as the principal regularities of the grafting process and properties of the graft copolymers. Unstabilized polyethylene film was used for grafting. Specimens underwent gamma irradiation from a Co-60 source. The following questions were studied: the effect of the nature of the solvent (in air) on the degree of grafting (the highest degree of grafting was found with the use of acetone); the effect of solution concentration, dose rate and film thickness on the yield of graft copolymer during irradiation of films immersed in an acetone solution of vinyphos; the effect of degree of grafting on the physicochemical indices of film (35 microns thick) from polyethylene-vinyphos copolymer. It was found that the quantity of graft copolymer is proportional to the concentration of vinyphos in acetone to 50 vol. percent, while a further increase in concentration does not affect the yield of graft copolymer. The yield of graft copolymer does not exceed 45-46 percent with an irradiation dose of 40 Mrad for films 1/2

USSR

POPOVA, A. I., et al., Plasticheskiye Massy, No 11, 1971, pp 40-42

35 microns thick. The degree of grafting declines slightly with a film thickness of 70 microns and drops sharply with a thickness of 200 microns. The grafting process is evidently determined by diffusion of the monomer into the polymer. The quantity of graft vinylphos can be increased by the method of "successive" irradiation.

2/2

- 94 -

USSR

FAYZULLIN, I. N., FAYZULLINA, D. A., KUZNETSOV, Ye. V., GEFTER, Ye. L.,
ISUPOVA, A. I., MAKSDOVA, T. M., Kazan' Chemical Scientific Research Insti-
tute

"Some Asymmetric Alkyl-Aryl Esters of Alkylphosphonic Acids (abstract of the
article)"

Leningrad, Zhurnal Obshchey Khimii, Vol 40 (102), No 11, Nov 70, p 2530

Abstract: The authors describe synthesis of chloride and allylaryl esters of methyl-, chloromethyl- and β -chloroethylphosphonic acids. The synthesis was done in two stages. In the first stage, methyl-, chloromethyl- and β -chloroethylphosphonyl dichlorides are interacted with phenols to produce the corresponding acid chloride esters. The second stage is interaction of the acid chloride esters with allyl alcohol in the presence of pyridine. The synthesized substances are colorless liquids which dissolve in organic solvents.

1/1

- 33 -

1/2 029 UNCLASSIFIED PROCESSING DATE--11DEC70
TITLE--PLASTIC RESTORATION OF THE LIGAMENTARY APPARATUS OF THE KNEE JOINT
WITH DACKEN -U-
AUTHOR--GEDECKORI, YU.A.
COUNTRY OF INFO--USSR
SOURCE--ORTOP TRAVMATOL PROT 31(2): 67-66. ILLUS. 1970
DATE PUBLISHED-----70
SUBJECT AREAS--BIOLOGICAL AND MEDICAL SCIENCES
TOPIC TAGS--PLASTIC SURGERY, SKELETAL MECHANICS, SYNTHETIC FIBER
CENTRAL MARKING--NO RESTRICTIONS
DOCUMENT CLASS--UNCLASSIFIED
PROXY FICHE NO----FD70/605014/F06 STEP NO--UR/9115/70/031/002/0067/0068
CIRC ACCESSION NO--AP0140536
UNCLASSIFIED

2/2 029

UNCLASSIFIED

PROCESSING DATE--11DEC70

CIRC ACCESSIGN NO--AP0140536

ABSTRACT/EXTRACT--(U) GP-O- ABSTRACT. THE MATERIAL GRISUTEN (IDENTICAL TO DACRON) WAS USED AS A VASCULAR SUBSTITUTE IN OPERATIONS FOR RESTORING THE LIGAMENTARY APPARATUS OF THE KNEE JOINT. THIS MATERIAL SATISFIES ALL THE REQUIREMENTS OF MODERN VASCULAR SURGERY. RESULTS OF ITS USE SURGICALLY ON 19 PATIENTS 1 TO 3 YR AFTER THE OPERATIONS WERE GOOD IN 16 OUT OF 18 AND SATISFACTORY IN 2 CASES. ALL OF THE PATIENTS RESUMED THEIR OCCUPATIONS AFTER RELEASE, 14 OF THEM ENGAGE IN ATHLETICS.

UNCLASSIFIED

USSR

UDC 51:621.391

GEGELIYA, G. D.

"Method of Modulus Testing with Increased Reliability of Test Information Processing"

Regional'ch. Nauch.-tekhn. Seminar po Statist. Analizu, Modelir. i Avtomatiz. Kontrolya Ob'ektov s Konstruktivno-slozhn. Strukturoy. Vyp 2 [Regional Scientific and Technological Seminar on Statistical Analysis, Modeling and Automation of Testing Objects with Structurally Complex Structure. No 2 -- Collection of Works], Taganrog, 1970, pp 172-178, (Translated from Referativnyy Zhurnal, Kibernetika, No 10, 1971, Abstract No 10 V642 by V. Dyn'kin).

Translation: In order to increase the reliability of processing and storing of tests digits, it is suggested that testing be performed in mode 5, which simplifies the performance of test operations and increases the interference stability of test information in comparison with mode 3.

1/1

USSR

UDC 632.34

GEGENAVA, G. V., and BAKRADZE, I. S.,

"Ovicidal effect of Combined Mixture of Sevin With Phosphamide and Methylnitrophos"

Tbilisi, Soobshcheniya Akademii Nauk Gruzinskoy SSR, Vol 58, No 2, 1970, pp 205-208

Abstract: Results of the toxicity study of combined mixtures of sevine with phosphamide and methylnitrophos (metathion) against the ova of citrus white fly are reported. It has been determined experimentally that the mixture of sevine and phosphamide is most effective. A synergistic effect is observed with components mixed in ratios of 1:2.5; 1:6.24; 1:11.2; and 1:0.068. When sevine is mixed with methylnitrophos, such a phenomenon is observed only with ratios of 1:0.16 and 1:0.5. Other ratios give lower toxicity, down to the level of only a marked antagonism.

1/1

USSR

UDC 669.295

GEGER, V. E., CHEPRASOV, I. M., DMITRIYEV, V. N., FEDOTOV, Ye. I.,
GAFUROVA, N. Sh.

"The Mechanism of the Interaction of Titanium Tetrachloride with Magnesium"

Ordzhonikidze, Izvestiya Vysshikh Uchebnykh Svedeniy, Tsvetnaya
Metallurgiya, No 4, 1972, pp 59-63.

Abstract: The mechanism of magnesium-thermal reduction of titanium is studied by quick cooling of the reaction products. The discovery of sponge titanium on the cover of a commercial reactor in specially cooled recesses and analysis of the structure of the sponge indicate that the sponge structure of titanium is a result of secondary processes occurring following the chemical reactions. The appearance of the primary peculiarities of thermal combustion during magnesium thermal reduction of titanium allows us to look upon the occurrence of this process from the standpoint of the theory of combustion.

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USSR

UDC 669.295

RODYAKIN, V. V., GEGER, V. E., SKRYPNYUK, V. M.

"Magnesium-Thermal Production of Sponge Titanium"

Magniyetermicheskoye Proizvodstvo Gubchatogo Titana [English version above], Metallurgiya Press, 1971, 216 pages.

Translation of Annotation: This book presents general information on the physical-chemical properties, production and consumption of magnesium-thermal titanium. The theoretical principles of the technological processes involved in the production of magnesium-thermal sponge titanium are presented. The technology of production of magnesium-thermal titanium, design of apparatus, methods for utilization of apparatus and methods for elimination of problems arising during operation are studied in detail. The book is designed for engineering-technical and scientific workers, and can also be useful to graduate students and students of technical schools, specializing in the area of titanium metallurgy. 82 Figures; 27 Tables; 139 Biblio. Refs.

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USSR

UDC 669.295

RODYAKIN, V. V., GEGER, V. E., SKRYPNYUK, V. M., Magniyetermicheskoye
Proizvodstvo Gubchatogo Titan, Metallurgiya Press, 1971, 216 pages.

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USSR

UDC 669.295

RODYAKIN, V. V., GEGER, V. E., SKRYPNYUK, V. M., Magniyetermicheskoye
Proizvodstvo Gubchatogo Titan, Metallurgiya Press, 1971, 216 pages.

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USSR

UDC 669.295

RODYAKIN, V. V., GEGER, V. E., SKRYPNYUK, V. M., Magniyetermicheskoye
Proizvodstvo Gubchatogo Titan, Metallurgiya Press, 1971, 216 pages.

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USSR

UDC 620.179.152.5

GEGER', V. Ya.

"Use of Albedo Gamma Radiation in Three-Dimensional Measurement of Density"

Defektoskopiya, No 5, 1971, pp 75-79.

ABSTRACT: This article studies the possibility of using albedo gamma radiation in determining the specific gravity of multicomponent media at various depths depending on the measurement task assigned. The theoretical principles of measurement of albedo gamma radiation are presented. Calculations are performed and the influence of chemical composition and component ratio is established (using lightweight aggregate concrete as an example) on the value of Z_{eff} is established. The results of the studies performed allow recommendation of albedo gamma radiation for determination of density in various cross sections of a test object.

1/1

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USSR

UDC 681.332.65

GEGESHIDZE, G. A., and KOSTAVA, Yu. N.

"Digital Device for Deflecting a Light Beam"

USSR Author's Certificate No 281000, filed 5 May 69, published 25 Nov 70
(from RZh-Avtomatika, Telemekhanika i Vychislitel'naya Tekhnika, No 6,
Jun 71, Abstract No 6B231P)

Translation: This invention is a digital electrooptical device for computers. It is designed for deflecting a light beam. A digital device for deflecting a light beam including a light source, a polarizer, electrooptical switches, and crystals with double-beam refraction arranged one after the other on the same optical axis is well known. A combination of a crystal with double-beam refraction and an electrooptical switch constitutes one cascade of the deflection device. The polarized beam passing through the cascade is deflected only when a voltage is applied to the electrooptical switch. In order to increase the number of shift positions of the beam, the number of deflection cascades through which the beam passes sequentially is increased. The deficiency of this device is a small angle of deflection of the light beam and large light energy losses caused by an increase in the number of electrooptical switches through which the beam

1/2

USSR

GEGESHDZE, G. A., and KOSTAVA, Yu. N., USSR Author's Certificate No 281000, filed 5 May 69, published 25 Nov 70 (from RZh-Avtomatika, Telemekhanika i Vychislitel'naya Tekhnika, No 6, Jun 71, Abstract No 6B231P)

passes sequentially with an increase in the number of positions. The purpose of the invention is to obtain a large angle of deflection of the light beam and decrease the light energy losses. The proposed device is distinguished by the fact that it is equipped with an optical fiber system (light guides) arranged in a defined manner, and the electrooptical switches contain auxiliary polarizers.

2/2

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Analysis and Testing

USSR

UDC 548.0:539.27

GEGUZIN, Ya. Ye., MARKUS, A. M., and GOROKHOV, M. V., Khar'kov State University

"On Protonography 'by Transparency' of Single-Crystal Films"

Moscow, Kristallografiya, Vol 17, No 4, 1972, pp 783-787

Abstract: Features of a new method for analyzing the structure of crystals and their defects are discussed. The method "pass-through" is based on the study of the shadow and the channeling effects of protons passing through the crystalline lattice. Experimental data are reported which must be taken into account for obtaining "geometrical" information. The latter provides a clarification of features of "pass-through" protonography. Under optimum conditions, the energy of the primary beam W_0 and the thickness of the film d are correlated in the form $d = \alpha W_0 / \varphi$, where φ = magnitude of specific losses of protons in the film substance and α is a dimensionless factor $\alpha \leq 1$. Experiments in which single-crystal films 6000-8000 Å thick were exposed to a collimated beam of protons are discussed. Five figures, seven bibliographic references.

1/1

GEGUZIN, Ya. Ye.

RAD / N 160 / 5750 73 89

the molecular strength; accordingly, destruction was noted along the bonds well before molecular destruction. Molecular destruction can be caused by both heat and light. The wavelength of laser radiation is such that at low intensities unstressed polymer molecules do not absorb the waves; but internal destruction does take place and cracks are observed. The aggregate structure of the substance plays an important role; e.g. the less the aggregate size, the greater the amount of cracks in polymers. The investigations show that organic glass and other amorphous polymers contain hyper-molecular structures. Figure 1 shows the micro-structure of a plexiglass.

Geguzin, Ya. Ye., A. K. Yemets, and Yu. I. Boyko.

Lowered optical strength of transparent solids with macroscopic defects. FTT, no. 5, 1972, 1565-1566.

An experiment is briefly described which attempted to correlate the degree of porosity in glass with its optical strength σ in laser applications. The case considered assumes that the characteristic linear dimension of the pore is greater than laser wavelength λ ; in such cases for glass or ionic crystals, as much as 70% of light incident on the pore may be reflected, resulting in interference with the transmitted beam and generation of thermal damage centers. Tests to show this effect were done with a silicate glass containing a dispersed powder, sintered to form a porous medium with pore size ≈ 5 microns and a mean pore spacing of 30 microns.

GEGUZIN, Ya. Ye.

MOTION OF MACROSCOPIC INCLUSIONS IN SOLIDS

JPRS 55930
9 May 1972

Excerpts from Russian-language book by Ya. Ye. Geguzin, B. A. Klyugolaz, D. V. Zheniye Makroskopicheskikh Vkluyeniye v Tverdykh Tela, 1971, Metallurgy Publishing House, Moscow, signed to press 21 April 1971, pp 3, 4, 284-319, UDC 669:62a192.4.

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[1 - USSR - 1]

1/2 016 UNCLASSIFIED PROCESSING DATE--04DEC70
TITLE--MOVEMENT OF INSOLUBLE INCLUSIONS IN AN IONIC CRYSTAL IN THE VACANCY
BREAKDOWN BAND -U-
AUTHOR-(02)-GEGUZIN, YA.YE., SIMENOV, S.S.
COUNTRY OF INFO--USSR
SOURCE--FIZ. TVERD. TELA 1970, 12(3), 911-12
DATE PUBLISHED-----70
SUBJECT AREAS--PHYSICS
TOPIC TAGS--IONIC CRYSTAL, POTASSIUM BROMIDE, CHROMIUM OXIDE, METAL
INCLUSION, NICKEL OXIDE, IRON OXIDE, COPPER OXIDE
CONTROL MARKING--NO RESTRICTIONS
DOCUMENT CLASS--UNCLASSIFIED
PROXY REEL/FRA--1996/1796 STEP NO--UR/0181/70/012/003/0911/0912
CIRC ACCESSION NO--AP0118764
UNCLASSIFIED

2/2 016

UNCLASSIFIED

PROCESSING DATE--04DEC70

CIRC ACCESSION NO--AP0118764

ABSTRACT/EXTRACT--(U) GP-0- ABSTRACT. RESULTS ARE GIVEN OF EXPTS. IN WHICH THE EXPECTED MOTION OF INSOL. INCLUSIONS IN AN IONIC CRYSTAL WAS OBSD. ON THE SURFACE OF A NATURAL CLEAVAGE OF KBR, A ALYER OF FINELY DISPERSED CR OXIDE POWDER (5-10 MU) WAS DEPOSITED. ON THIS A LOOSE LAYER OF KBR WAS POWDERED, 50-100 MU THICK. POWDERING WAS CARRIED OUT AT 300DEGREES. THIS LAYER WAS A SOURCE OF VACANCIES MOVING IN THE ELEC. FIELD. ANNEALING WAS DONE AT 630DEGREES IN A FIELD OF 100 V-CM. THE FIELD WAS APPLIED IN SUCH A WAY THAT COMPLEXES OF VACANCIES AND INCLUSIONS MOVED FROM THE LAYER INTO THE CRYSTAL. ANNEALING WAS PERIODICALLY DISCONTINUED, AND A SPOT ON THE CRYSTAL WAS PHOTOGRAPHED. A CHARACTERISTIC STRUCTURE OF THE REGION OF VACANCY BREAKDOWN ON WHICH DISPLACE PARTICLES OF CR SUB2 O SUB3 WERE VISIBLE IS GIVEN. BY EXAMG. A LARGE NO. OF SUCH REGIONS, THE FOLLOWING PECULIARITIES OF THE PROCESS WERE ESTABLISHED. INITIALLY, THE PARTICLES MOVE WITH A VELOCITY OF SIMILAR TO 10 PRIME NEGATIVE5 CM-SEC, WHICH DECREASES CONSIDERABLY WITH THE TIME OF ISOTHERMAL ANNEALING. THE GREATER THE VELDCITY OF MOTION OF AN INCLUSION THE MORE THICKLY DISTRIBUTED ARE THE REGIONS OF THE VACANCY BREAKDOWN. ANALOGOUS CONCLUSIONS WERE BOTAINED WHEN THE MOVING PARTICLES WERE OXIDES OF NI, FE, AND CU. THE DESCRIBED PHENOMENA OF THE ACCELERATED DIFFUSION MOTION OF INCLUSIONS IN DEFECT REGIONS ARE PRESENT NOT ONLY IN IONIC CRYSTALS BUT ALSO IN A METALLIC DISPERSIONALLY STRENGTHENED SYSTEM. FACILITY: KHAR'KOV. GOS. UNIV. IM. GOR'KOGO, KHARKOV, USSR.

UNCLASSIFIED

1/2 018 UNCLASSIFIED PROCESSING DATE--16OCT70
TITLE--KIRKENDALL EFFECT IN A ONE COMPONENT SYSTEM -U-

AUTHOR--(03)-GEGUZIN, YA.YE., NGUYEN, C.B., PARITSKAYA, L.N.

COUNTRY OF INFO--USSR

SOURCE--DOKL. AKAD. NAUK SSSR 1970, 190(3), 569-71

DATE PUBLISHED-----70

SUBJECT AREAS--MATERIALS, MECH., IND., CIVIL AND MARINE ENGR

TOPIC TAGS--KIRKENDALL EFFECT, COPPER ALLOY, SINTERED METAL, METAL ROLLING

CONTROL MARKING--NO RESTRICTIONS

DOCUMENT CLASS--UNCLASSIFIED

PROXY REEL/FRAE--1995/1132

STEP NO--UR/0020/70/190/003/0569/0571

CIRC ACCESSION NO--AT0116597

UNCLASSIFIED

2/2 018

UNCLASSIFIED

PROCESSING DATE--16OCT70

CIRC ACCESSION NO--AT0116597

ABSTRACT/EXTRACT--(U) GP-0- ABSTRACT. DIFFUSION INDUCED POROSITY OCCURS AT THE CONTACT SURFACE OF DENSE CU (SINTERED CU) AFTER FIRING. THIS IS ATTRIBUTED TO A FRENKEL EFFECT, CONSEQUENTLY A SIMULTANEOUS COUNTER EFFECT, THE KIRKENDALL EFFECT IS SUGGESTED ALSO. IN ORDER TO PROVE IT, 3 LAYER SAMPLES WERE PREPD. WITH POROUS OUTER LAYERS (CU SHEETS ELECTROPLATED FROM AN ACID BATH AT 5 A-DM PRIME2) AND A DENSE INNER LAYER (CAST ROLLED CU IN SOME EXPTS. AND CU, ELECTROPLATED AT 0.25 A-DM PRIME2 IN OTHERS). INERT MARKERS (MO WIRES) WERE PLACED TO FIX THE POSITION OF THE CONTACT. THE THREE LAYER SAMPLES WERE FIRED AT 950DEGREES FOR 2-36 HR AND EXAMD. UNDER A MICROSCOPE AFTER POLISHING. EXPTS. PROVED THAT A KIRKENDALL EFFECT TAKES PLACE DUE TO THE ORIENTED SELF DIFFUSION OF VACANCIES. NO KIRKENDALL EFFECT WAS DETECTED IN SAMPLES WITH DENSE OUTER AND POROUS INNER LAYERS. FACILITY: KHARKOV. GOS. UNIV. IM. GOR'KOGO, KHARKOV, USSR.

UNCLASSIFIED

USSR

UDC 621.643.001.24

GEKHMAY, A.S., KAMERSHTEYN, A.G.

"The Seismic Resistance of Pipelines Should Be Reconsidered"

Moscow, Stroitel'stvo Trubuprovodov, No 5, May 1971, pp 34-36

Abstract: The planning of long-distance oil and gas pipelines, in regions where seismic activity with an intensity of more than 7 points is possible, is carried out in accordance with the supplementary requirements set forth in specified Construction Norms and Regulations. However, the selection of seismic activity with an intensity of 7 points as the initial (calculated) point of application of the supplementary requirements seems to the authors to be unfounded. They arrive at the conclusion that underground pipelines outside zones of ground breakage can sufficiently well withstand seismic activity with an intensity of up to 9 points, and that in the planning of underground steel pipelines, the special requirements should be applied only in sectors where the calculated seismic activity comprises 9 points and more. The seismic resistance of surface pipelines is determined by the seismic resistance of the support structures and the reliability of attachment of the pipes to the support. In seismic regions, surface pipelines should whenever possible be avoided, and should be replaced by underground pipelines. When on the basis of construction conditions it is impossible to replace the surface laying of pipe-

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USSR

GEKHMEN, A.S., et al, Stroitel'stvo Trubuprovodov, No 5, May 1971, pp 34-36

lines with the underground laying of them, the requirements of the appropriate Construction Norms And Regulations should be applied even for seismic activity of 7 points, but account should be taken of the possibility of lowering these standards due to the possibility of the functioning of pipelines for certain periods of time under accident conditions. 6 bibliographic entries.

2/2

- 171 -

USSR

UDC 612.46.014.45

GEKHMAN, B. S., LAZARETNIK, A. Sh., VARSHAVER, L. G., BONDARENKO, V. P.,
DANIILENKO, N. F., Kiev District Military Hospital

"The Effect of Supersonic Waves on Kidneys and Urinary Tracts"

Moscow, Patologicheskaya Fiziologiya i Eksperimental'naya Terapiya, No 3, May/
Jun 70, pp 17-21

Abstract: A high-intensity source emitting a spherical supersonic wave was used for irradiating 30 dogs, ten of which were in an acute test, 19 of which had been under observation for six months, and one control. The vesical, center, and perirenal parts of the ureter, the renal pelvis, and kidney were subjected to the supersonic waves. In 12 tests, temperature gradients were measured. No significant morphological changes in the tissues of the urinary bladder or ureters were detected after short or long periods of treatment. In no case was thermocoagulation of the tissues observed. Results of histochemical studies of the kidneys were in agreement with histological data. The results were explained by the fact that a supersonic source producing a spherical wave comparatively rapidly, i.e., over short distances, loses its intensity. When a 1:5 irradiation rhythm was used, elimination of heat by the systems of the organism regulating heat exchange was assured.

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USSR

UDC 612.465.014.45

PENCHUK, V. G., GEKIMAN, B. S., and LAZARETNIK, A. Sh., Kiev
Institute of Experimental and Clinical Oncology; Kiev District
Army Hospital

"Renal Ultrastructural Shifts Under the Influence of Ultrasound"

Kiev, Fiziologicheskii Zhurnal, Vol 17, No 1, Jan/Feb 71, pp 109-
113

Abstract: Shifts in the ultrastructure of the renal organs induced by ultrasound with a frequency of 880 kc and an intensity of 2 w/cm^2 for a period of 20 minutes were studied. Three dogs -- two experimental and one control -- were used in the experiments with the left kidney subcutaneously exposed. A single continuous acoustic stimulus was applied to the experimental dogs through the undamaged skin. The third dog was not subjected to the action of ultrasound. An examination of kidney sections excised from the animals established functional shifts in the glomeruli and tubules of the organs, indicating disturbed membrane permeability. Neither radical changes pointing to dystrophy, I/2

USSR

PINCHUK, V. G., GEKHMEN, B. S., and LAZARETNIK, A. Sh.,
Fiziologicheskiy Zhurnal, Vol 17, No 1, Jan/Feb 71, pp 109-113

nor the presence of necrobiotic cells was discovered.

2/2

AA0052682

GEKAT

A. KH.
UR 0482

Soviet Inventions Illustrated, Section III Mechanical and General,
Derwent, 2-70

243166 WALL SUPPORT FOR MAST HOIST comprising
rod connected to the mast and resting on
the building wall, and clamps, differing in having a
flexible tie passed through a system of pulleys
mounted on the rod and clamps, connected to a
tensing device, and fixed on it -in the working
position by a clamping plate. This simplifies
assembly -of the support, and its design. In the
process of assembly the clamps are first attached
to the wall through apertures. They can be set up
independently of the rest of the support, since
they can be readily detached from it by taking tie
13 off diverting pulleys 11 and 12. Rod 1 is then
fixed first by some temporary method to the mast
so that it can move along its axis. After the
flexible tie has been threaded by rotating bush-
nut 5, the assembler tightens it. The tie with
its tensed branches is fixed by clamping plate 19.

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AA0052682

This prevents the flexible tie running along the pulleys in the working position. The tension in the branches remains constant, and rod 1 is unable

to move in the plane perpendicular to the axis of the mast. After tensing the tie, the rod is finally fixed to the mast.

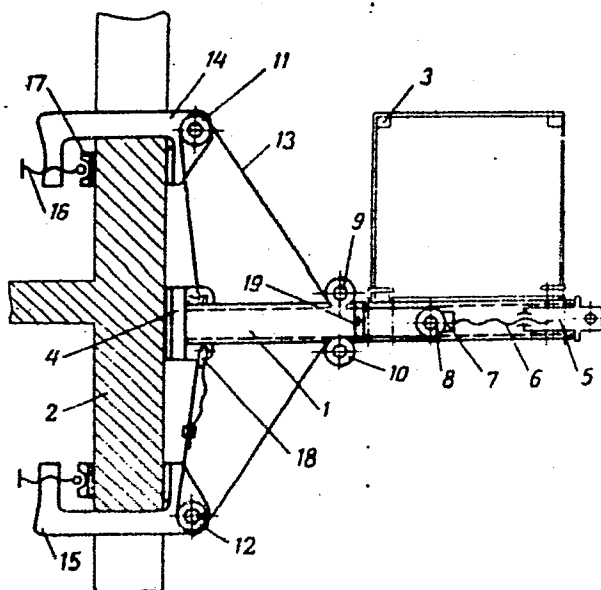
17.1.68. as 1210039/27-11, GALICHENKO, A.N. et al
Inst. For Building and Roadmaking Engineering.
(22.9.69) Bul. 16/5.5.69. Class 35d, Int. Cl.
B 66b.

Galichenko, A. N.; Mos'kin, A. N.; Feoktistov, G. N.; Gekht, A. Kh.
Usesoyuznyy Nauchno-Issledovatel'skiy Institut Stroitel'nogo i
Dorozhnogo Mashinostroyeniya

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19821458

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USSR

UDC 615.371:576.851.49].012.1

GEKKER, V. D., and SERGEYEVA, N. S., Institute of Epidemiology and Microbiology
imeni Gamaleya, Academy of Medical Sciences USSR

"Preparation of Complex Chemical Typhoid Vaccine Containing O-, Vi-, and H-
Antigens"

Moscow, Zhurnal Mikrobiologii Epidemiologii i Immunobiologii, No 1, 1973,
pp 14-18

Abstract: Compound typhoid vaccine containing O-, Vi-, and H-antigens was prepared from a dry microbial mass of typhoid bacilli killed with acetone and suspended in saline to extract the active components. The suspension was centrifuged, and the supernatant fluid was decanted, dialyzed, and precipitated with 5 N trichloroacetic acid at pH 3.5. The precipitate was dissolved in distilled water and neutralized with 1 N NaOH. Finally, all NaCl was removed through dialysis, and the remaining solution was freeze-dried. Immunophoretic analysis revealed the presence of O-, Vi-, and H-antigens in the vaccine. When administered intravenously or enterally to rabbits, the vaccine is highly antigenic, inducing production of O-, Vi-, and H-antibodies. The vaccine is also highly immunogenic. The sera of rabbits vaccinated intraperitoneally with the preparation effectively protect mice infected with Vi- and W-cultures of *S. typhi*. The toxicity of the vaccine is very low.

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Acc. Nr: **AP0043934**

Ref. Code: UR 0016

PRIMARY SOURCE: Zhurnal Mikrobiologii, Epidemiologii, i
Immunobiologii, 1970, Nr 2, pp 22-27

CONCERNING THE SPECIFIC PROPHYLAXIS OF DYSENTERY.
REPORT VI. THE EFFICACY OF ENTERAL IMMUNIZATION
WITH LIVE DYSENTERY VACCINE IN EXPERIMENTS
ON MONKEYS

Y. A. Belaya, K. N. Kavtaradze, V. D. Gekhe, E. K. Dzhikidze

Immunogenic properties of live lyophilized dysentery vaccine prepared of attenuated strain Flexner 2a were studied on 45 monkeys macaca rhesus. Of this number 25 monkeys were immunized enterally, 5 times, at intervals of 3 to 4 days with live vaccine in doses of 15—50 milliard live microbial cells. Two weeks after the immunization they were infected with 75 milliard live microbial cells of a virulent strain Flexner 2a. The incidence of the disease in the experimental group was 7.6 less than among the nonimmunized 18 monkeys. A rise of agglutinins (3—11-fold) was noted in the process of immunization; preventive properties of the sera in testing on chick embryos showed no significant changes. Bacteria of vaccine strain were isolated for 1 to 4 days from the monkeys after immunization. There occurred no restoration of the virulence.

Thus, live Flexner dysentery vaccine was shown to be areactogenic, harmless and to possess immunological efficacy in experiments on monkeys.

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UDC 669.22:539.216.2:548.526

PINES, B. Ya., GREBENNIK, I. P., and GEKTINA, I. V., Khar'kov State University imeni A. M. Gor'kiy

"Surface Diffusion on Silver and Nickel Thin Films"

Sverdlovsk, Fizika Metallov i Metallovedeniye, Vol 30, No 6, Dec 70, pp 1320-1322

Abstract: Samples were prepared for investigating surface diffusion by means of vacuum condensation on a metallic substrate B (layer thickness = 100-200 Å) onto which was sprayed a layer of the diffusing substance A of the same thickness but with a smaller area having a sharp boundary. Both diffusion of Ag in Ni and Ni in Ag were studied electronographically with diffusion of Ag in nickel done at 400-750° C and Ni in silver at 500-850° C. From this the minimum electronographically fixed thickness of the "filled" component was determined. Here double-layer films of Ag+Ni were studied by changing the ratio of component thicknesses. As one would expect, the diffraction lines from the thin film of an impurity, modeling the diffusing component in tests on surface diffusion, are observed in a limited concentration interval, which was associated with the sensitivity of the electronographic phase analysis.

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USSR

PINES, B. Ya., et al, Fizika Metallov i Metallovedeniye, Vol 30, No 6, Dec 70, pp 1320-1322

It turned out that the impurity was electronographically and reliably fixed in the amount of 4% (by wt) Ni in Ag and 3% (by wt) Ag in Ni. Recalculation of concentrations leads to values of a_{Ni} 8Å and a_{Ag} 5Å. A comparison of the intensity of diffraction lines of the component diffused into the surface with the intensity of the same lines from the impurity in the double-layer tests showed that, in view of their coincidence, the surface diffusion is accomplished in the layer, comparable in thickness, with an effective thickness of the impurity in the double-layer film. This does not exclude, with consideration of the sensitivity limitation of the electronographical method, that diffusion actually occurs in the layer of single-atom thickness.

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USSR

UDC 621.52.001

G
GEL', E.P., DYAD'ZIN, I.G., ZHUKOVA, S.A.

"Carrying Capacity Of Glass Stem With A Constriction For Flow Of Highly Rarified Gases"

Elektron. tekhnika. Nauchno-tekhn. sb. Elektron. SVCh (Electronic Technology. Scientific-Technical Collection. Microwave Electronics), 1970, No 1, pp 137-142 (from RZh--Elektronika i yeye primeneniye, No 7, July 1970, Abstract No 7A29)

Translation: The paper computes by the Monte-Carlo method the carrying capacity of a stem with a restriction of various types for the flow of rarified gases. An empirical formula is obtained for the dependence of the carrying capacity on the geometrical dimensions of the constriction. Data are presented on the density of impacts of the molecules with the surface of the stem for all of its length. 3 ref. Summary.

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USSR

UDC 615.919:591.145.2.615.918:58.615.9:576.8.097.29

ORLOV, B. N., and GELASHVILI, L. B.

"Principal Mechanisms of the Influence on Nerve Cells of Cobra Venom"

Uch. zap. Gor'kov. un-t. Ser. biol. (Educational Proceedings of the Gor'kov University, Biological Series), Vyp 40, 1972, pp 20-32 (from Referativnyy Zhurnal -- Farmakologiya. Khimioterapevticheskiye Sredstva. Toksikologiya, No 1, 1973, Abstract No 1.54.777 by V. K.)

Translation: Data were obtained by the induced potential method using both rabbits and cats with electrodes implanted in different areas of the brain. It was shown that on the basis of the suppression of activity of the central nervous system by the cobra venom, the effect of the venom is to block the mechanism of excitation of the central area. The fact that the venom has central "n-cholinolitic" properties may be responsible for this.

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Radiobiology

UDC 612.019

USSR

GELASHVILI, N. A., Institute of Physiology, Georgian Academy of Sciences

"Effect of X Rays on the DNA Content of Cell Nuclei in the Frog Neurohypophysis"

Tbilisi, Soobshcheniya Akademii Nauk Gruzinskoy SSR, No 2, 1973, pp 433-435

Abstract: One group of frogs was kept in darkness for one month while another group was exposed to artificial light 6 hours daily for the same length of time and then all the animals were X irradiated; some frogs of the second group received in addition an injection of a hypophyseal suspension before irradiation. Microscopic study of nuclei from neurohypophyseal cells showed that the effect of whole-body irradiation was greater in the animals exposed to artificial light, even more so in those injected with the hypophyseal suspension. In the animals of group 1, some of the cells were larger and the number of glial cells that retained their granular structure decreased only slightly, whereas in the group 2 animals, some of the cells became considerably enlarged and there was a marked decrease in the number of glial cells, some of which lost their pigment. Exposure of the frogs to 200 r resulted in an increased DNA content of the nuclei. After a dose of 10 kr the DNA content increased even more in the neurohypophyseal cells but decreased significantly in the glial cells. In both series of experiments, the

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USSR

GELASHVILI, N. A., Soobshcheniya Akademii Nauk Gruzinskoy SSR, No 2, 1973,
pp 433-435

higher level of ploidy and decrease in total number of glial cells were
most pronounced in the animals that received the hypophyseal suspensions.

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USSR

UDC 591.1.15

GELASHVILI, N. A.

"Effect of X-Rays on the Content of DNA in the Cells of the Neurohypophysis of a Frog"

Sakartvelos SSR Metsnierebata Akademiis moambe (Reports of the Academy of Sciences of the Georgian SSR), No 2, 1973, pp 433-436 (Georgian and English resume) (from RZh-Biologicheskiye khimiya, No 13, Jul 73, Abstract No 13 F 1358)

Translation: Cytophotometric study of DNA content in the nuclei of cells in the neurohypophis of experimental animals showed that the effect of total radiation with equal doses of ionization was greater in animals, whose hypophises were activated prior to radiation by the action of artificial light and especially in those that were subjected beforehand to the action of visible light and also to injections of a suspension of the hypophysis (two hypophises separated by one day; a total of two injections). One day after the second injection the animals were irradiated. At a dosage of 2000 roentgens nuclei with a higher DNA content were detected. After the administration of 10 kiloroentgens not only was an increase detected in the content of the DNA but there was also a definite reduction of DNA in certain glial

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USSR

GELASHVILI, N. A., Sakartvelos SSR Metsnierebata Akademii moambe, No 2, 1973,
pp 433-436

cells of the neurohypophysis. In both series of experiments the effect of total irradiation was a higher level of ploidity and the overall number of glial cells of the neurohypophysis was greater in animals irradiated against a background of an activated hypophysis. At the same time the results obtained with the imprint method were similar to the data obtained by cutting.

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1/2 022 UNCLASSIFIED PROCESSING DATE--20NOV70
TITLE--SEPARATION OF THE HYDROCARBON PORTION OF THE OIL FRACTION OF
RHAEDOPISSITE THERMOPLASTICIZER EXTRACT FROM NONHYDROCARBON COMPOUNDS
AUTHOR--(03)-TSISAKRISHVILI, P.D., IOSAVA, I.G., GELASHVILI, N.S.
COUNTRY OF INFO--USSR
SOURCE--SOOESHCH. AKAD. NAUK GRUZ. SSR 1970, 57 (2), 337-40.
DATE PUBLISHED-----70
SUBJECT AREAS--CHEMISTRY
TOPIC TAGS--PETROLEUM PRODUCT, CRUDE OIL, AROMATIC HYDROCARBON,
SPECTROPHOTOMETRIC ANALYSIS, UV SPECTRUM, CHROMATOGRAPHIC ANALYSIS,
PLASTICIZER, THERMOPLASTIC MATERIAL
CONTROL MARKING--NO RESTRICTIONS
DOCUMENT CLASS--UNCLASSIFIED
PROXY REEL/FRA--3006/1307 STEP NO--0R/0251/70/057/002/0337/0340
CIRC ACCESSION NO--AP012443
UNCLASSIFIED

2/2 022

UNCLASSIFIED

PROCESSING DATE--20NOV70

CIRC ACCESSION NO--AP0134931

ABSTRACT/EXTRACT--(U) GP-C- ABSTRACT. THE OIL FRACTION OF RHABDOPISSITE THERMOPLASTICIZER EXT. (N PRIME20 SUBD 1.556, HETEROCYCLIC ATOMS 4 WT. PERCENT, BK NO. 76, AND MOL. WT. 555) WAS SEPD. ON A SILICA GEL CHROMATOG. COLUMN AND THE RESULTING HYDROCARBON PART (C 87.59, H 12.37, NONHYDROCARBONS 0.04 WT. PERCENT, D PRIME20 SUB4 0.934, N PRIME20 SUBD 1.539, AND MOL. WT. 574) WAS STUDIED BY USING VACUUM DISTN., BY HEATING AT 280-320DEGREES FOR 32 HR, AND BY SPECTROPHOTOMETRY IN THE UV REGION. THE HYDROCARBON PART INVESTIGATED CONSISTED OF PARAFFINS AND NAPHTHENES PLUS SMALL AMTS. OF AROMATIC COMPS. MOST OF THE AROMATIC HYDROCARBONS IN THE OIL FRACTION WERE LOST DURING THE CHROMATOG. SEPN.
FACILITY: INST. FIZ. ORG. KHIM. IM. MALIKISHVILI, TBILISI, USSR.

UNCLASSIFIED

1/2 019

UNCLASSIFIED

PROCESSING DATE--30OCT70

TITLE--PHOTON ELECTRON TRANSFORMATIONS IN SUBSTANCES DURING PASSAGE OF
BREMSSTRAHLUNG RADIATION AND ITS PRACTICAL APPLICATION -U-

AUTHOR-(02)-GELASHVILI, SH.SH., VOROBYEV, V.A.

COUNTRY OF INFO--USSR

SOURCE--SOGBSHCH. AKAD. NAUK GRUZ. SSR; 57: 309-12(FEB 1970)

DATE PUBLISHED--FEB70

SUBJECT AREAS--PHYSICS

TOPIC TAGS--GAMMA TRANSITION, GAMMA RAY PHOTOELECTRIC EFFECT, BREMS
STRAHLUNG, PAIR PRODUCTION, IONIC CRYSTAL, POTASSIUM CHLORIDE, RADIATION
INTENSITY

CONTROL MARKING--NO RESTRICTIONS

DOCUMENT CLASS--UNCLASSIFIED

PROXY REEL/FRA--3001/2227

STEP NO--UR/0251/70/057/000/0309/0312

CIRC ACCESSION NO--AP0127589

UNCLASSIFIED

2/2 019

UNCLASSIFIED

PROCESSING DATE--30OCT70

CIRC ACCESSION NO--AP0127589

ABSTRACT/EXTRACT--(U) GP-O- ABSTRACT. TRANSFORMATION FO GAMMA RADIATION IN THE ENERGY RANGE OF 10 TO 30 MEV DURING ITS PASSAGE THROUGH THIN CRYSTALS OF KCL, KBR, AND KI WAS STUDIED. THE TRANSITION CURVES (RELATIVE INTENSITY AS A FUNCTION OF CRYSTAL THICKNESS AND RADIATION ENERGY) ARE ALSO CONSIDERED. BLACKENING OF A ROENTGEN PLATE WAS FOUND TO BE INVERSELY PROPORTIONAL TO THE THICKNESS OF THE CRYSTAL PLACED IN FRONT OF IT. THE DEPENDENCE OF THE PLATE BLACKENING ON THE CRYSTAL DENSITY WAS ESTABLISHED. FACILITY: TBILISI STATE UNIV., USSR.

UNCLASSIFIED

USSR

UDC 547.345+547.346

GVERDTSITELI, I. M., and GELASHVILI, Ye. S., Tbilisi State University

"Study of the Reaction of Hydrosilylation and Hydrogermylation of 3-Methyl-5-methoxypentyn-1-ol"

Leningrad, Zhurnal Obshchey Khimii, Sep 71, Vol 41, No 9, pp 2061-2066

Abstract: This report concerns the reaction of triethylsilane and triethylgermane with 3-methyl-methoxypentyn-1-ol-3 in the presence of Speier catalyst ($\text{H}_2\text{PtCl}_6 \cdot 6\text{H}_2\text{O}$) in isopropyl alcohol. It was found that in both cases the reaction involves addition at the triple bond and proceeds either according to Markovnikov's rule or contrary to it (cis- and trans-forms). Both NMR and IR spectra for both cases are provided. Identification of compounds, yields, physicochemical constants and other analytical results are presented in tabular form.

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1/2 012 UNCLASSIFIED PROCESSING DATE--09OCT70
TITLE--KINETICS OF THE REACTION OF AMINES WITH PHENACYL BROMIDE --U--
AUTHOR--(03)--LITVINENKO, L.M., PUPOV, A.F., GELBINA, ZH.P.
COUNTRY OF INFO--USSR
SOURCE--ZH. OBSHCH. KHIM. 1970, 40(2) 356-63
DATE PUBLISHED-----70
SUBJECT AREAS--CHEMISTRY
TOPIC TAGS--REACTION KINETICS, AMINE, BROMINATED ORGANIC COMPOUND, BENZENE
DERIVATIVE, STERIC HINDRANCE, TRIETHYLAMINE
CONTROL MARKING--NO RESTRICTIONS
DOCUMENT CLASS--UNCLASSIFIED
PROXY REEL/FRA--1992/1580 STEP NO--UR/0079/70/040/002/0356/0363
CIRC ACCESSION NO--AP0112574
UNCLASSIFIED

2/2 012

UNCLASSIFIED

PROCESSING DATE--09OCT70

CIRC ACCESSION NO--AP0112574

ABSTRACT/EXTRACT--(U) GP-0- ABSTRACT. KINETIC DATA WERE REPORTED FOR THE TITLE REACTION AT 25 DEGREES IN C SUB6 H SUB6 AND PHND SUB2. THE REACTIVITY OF THE AMINES VARIES WITH STRUCTURE AND DECREASES WITH INCREASING SHIELDING OF THE N ATOM BY STERIC HINDRANCE FROM THE R GROUPS. THE VARIATION FITS WELL INTO THE SWAIN SCOTT EQUATION (1953). THE SHARP DEPARTURE OF DATA FOR PHNH SUB2 FROM THE RECTILINEAR CORRELATIONAL PLOT OF ALKYLAMINES IS CAUSED BY DIFFERENCES DUE TO SOLVATION OF THIS AMINE IN PROTONATED SOLVENTS USED FOR CALC. OF NUCLEOPHILICITY AND THE SOLVENTS USED FOR THE TITLE REACTION IN THE PRESENT WORK. IN PASSING FROM C SUB6 H SUB6 TO PHND SUB2 THE REACTION RATE INCREASED FOR ALL AMINES BY A NEARLY CONST. AMT. AND AGREED WITH SIMILAR CHANGE IN REACTION RATE OF AMINES WITH ALKYL HALIDES. THE AMINES USED WERE PHNH SUB2, MENH SUB2, BUNH SUB2, ET SUB2 NH, AND PIPERIDINE.

UNCLASSIFIED

1/2 018 UNCLASSIFIED PROCESSING DATE--09OCT70
TITLE--KINETIC MODEL OF THE CATALYTIC OXIDATIVE DEHYDROGENATION OF N
BUTENES OF 1,3,BUTADIENE -U-
AUTHOR-(05)-BAKSHI, YU.M., SNAGOVSKIY, YU.S., GURYANOVA, R.N., GELBSHTEYN,
A.I., OSTROVSKIY, G.M.
COUNTRY OF INFO--USSR

SOURCE--NEFTEKHIMIYA 1970, 10(1), 7-15

DATE PUBLISHED-----70

SUBJECT AREAS--CHEMISTRY

TOPIC TAGS--COMPUTER, CALCULATION, CHEMICAL REACTION RATE, BUTENE,
BUTADIENE, CATALYTIC DEHYDROGENATION, ALGORITHM

CONTROL MARKING--NO RESTRICTIONS

DOCUMENT CLASS--UNCLASSIFIED

PROXY REEL/FRAME--1992/1887

STEP NO--UK/0204/70/010/001/0007/0015

CIRC ACCESSION NO--AP0112867

UNCLASSIFIED

2/2 018 UNCLASSIFIED PROCESSING DATE--09OCT70
 CIRC ACCESSION NO--AP0112867
 ABSTRACT/EXTRACT--(U) GP-0- ABSTRACT. A KINETIC MODEL FOR A COMPUTER PROGRAM WAS USED TO CALC. RATE CONSTS. WITH AN AV. RELATIVE ERROR IS SMALLER THAN OR EQUAL TO 20PERCENT (20-30PERCENT FOR O-CONTG. BY PRODUCTS) FOR N BUTENE CONVERSION TO H SUB2 C:CHCH:CH SUB2 (I) DURING OXIDATIVE DEHYDROGENATION AT 425-70DEGREES OF A BUTENE FRACTION (29.6PERCENT 1, 22.6PERCENT CIS,2, AND 31.6PERCENT TRANS,2,BUTENE,3.12PERCENT H SUB2 C:CME SUB2, 2.3PERCENT I, AND 10.7PERCENT OTHER C SUB2-4 HYDROCARBONS) ON AN UNSUPPORTED, PROMOTED 1:1 BI-MO CATALYST. AT 470DEGREES WITH A FEED MIXT. CONTG. C SUB4 H SUB8, O, N, AND H SUB2 O IN A RATIO OF 1:1.8:18.5:3.9, WITH CONTACT TIME 8.2 SEC, CONVERSION AND SELECTIVITY WITH RESPECT TO I WERE CALCD. TO BE 75 AND 72PERCENT AND WERE FOUND EXPTL. TO BE 75 AND 68PERCENT, RESP. CONSTS ENTERING INTO THE RATE EQUATIONS WERE DETD. WITH THE USE OF A STEEPEST DESCENT ALGORITHM METHOD FOR FINDING THE MIN. OF A FUNCTION OF IN A AND E VALUES OF THE ARRHENIUS EQUATIONS. FACILITY: NAUCH. ISSLED, FIZ. KHIM. INST. IM. KARPOVA, MOSCOW, USSR.

UNCLASSIFIED

UDC 621.396.662 (088.8)

USSR

KURMAYEV, A. ZH., GEL'BSHTEYN, L.S.

"Device For Phase Automatic Frequency Control"

USSR Author's Certificate No 307482, filed 15 Dec 69, published 30 July 71
(from RZh:Radiotekhnika, No 2, Feb 72, Abstract No 2D1C5P)

Translation: A device is proposed for phase automatic frequency control, which contains a controlled oscillator, a gating pulse shaper, and an anticoincidence circuit. In order to decrease the time of entry into a synchronism with the frequency of the oscillator equal to the frequency of the input signal, the gating pulse shaper is connected across an CR circuit and a delay cascade with the cascades for coincidence of the signals with the antiphase outputs of the fine-tuned oscillator [podstraiivayemogo g-*ra*] and the antiphase outputs of a trigger connected by trigger and reset circuits with two supplementary coincidence cascades; the signal outputs of the latter are connected to the output of a cascade of anticoincidence of the input voltage of the ring of the automatic fine adjustment and the voltage of the gating pulse, and the control input -- to the antiphase outputs of the controlled oscillator, and also connected with the output of the anticoincidence cascade.

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USSR

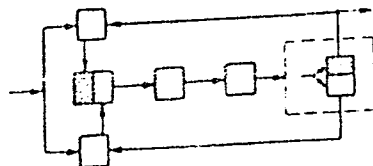
UDC: 621.397.335

GEL'BSHTEYN, L. S.

"A Device for Synchronization with Phase Automatic Frequency Control"

Moscow, Otkrytiya, izobreteniya, promyshlennyye obraztsy, tovarnyye znaki,
No 12, Apr 71, Author's Certificate No 299986, Division H, filed 30 Dec 69,
published 26 Mar 71, p 217

Translation: This Author's Certificate introduces a device for synchronization with phase automatic frequency control. The device contains a series circuit made up of a controllable oscillator, low-frequency filter and frequency divider. As a distinguishing feature of the patent, the time for establishing synchronous conditions is shortened by connecting the outputs of the frequency divider through switching circuits and a flip-flop to the input of the low-frequency filter, the input signal being fed to the second input of the switching circuits.



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UDC 621.374.4(038.8)

USSR

KURMAYEV, A. ZH., MIKHAYLOV, A. M., ~~GEL'BSHTEYN, L. S.~~, SLAVNIN, V. A., ODINTSOV, L. N., KOZLOV, A. I., KOROLEVA, R. A., STREL'NIKOV, A. D.

"Pulse Repetition Rate Dividing Circuit"

USSR Author's Certificate No 277845, Filed 9 Jan 69, Published 20 Oct 70 (from RZh-Radiotekhnika, No 4, Apr 71, Abstract No 4G247P)

Translation: A frequency dividing circuit is proposed, which contains a cycle signal source, a square-wave source, a switch in the cycle signal circuit, a frequency divider and a comparison circuit. In order to improve the noise resistance of the cycle pulse time selection in the presence of low frequency noise, the device is also equipped with a pulse converter included between the divider and the comparison circuit. The converter output is connected to the control input of the switch in the cycle pulse circuit.

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- 118 -

1/2 012 UNCLASSIFIED
TITLE--IMPULSE FREQUENCY DIVIDER -U-

PROCESSING DATE--13NOV70

AUTHOR--(02)-GELBSTEYN, L.S., KOZLOV, A.I.

COUNTRY OF INFO--USSR

SOURCE--USSR 248004

REFERENCE--OTKRYTIYA, IZOBRET., PROM. OBRATSY, TOVARNYE ZNAKI, NR 23

DATE PUBLISHED--09JUL70

SUBJECT AREAS--ELECTRONICS AND ELECTRICAL ENGR.

TOPIC TAGS--FREQUENCY DIVIDER, PATENT, COINCIDENCE CIRCUIT, PULSE
GENERATOR

CONTROL MARKING--NO RESTRICTIONS

DOCUMENT CLASS--UNCLASSIFIED
PROXY REEL/FRAME--3004/0312

STEP NO--UR/0482/69/000/000/0000/0000

CIRC ACCESSION NO--AA0131020

UNCLASSIFIED

UNCLASSIFIED

PROCESSING DATE--13NOV70

2/2 012

CIRC ACCESSION NO--AA0131020

ABSTRACT/EXTRACT--(U) GP-0- ABSTRACT. MICROFICHE OF ABSTRACT CONTAINS GRAPHIC INFORMATION. IMPULSE FREQUENCY DIVIDER CONTAINING A SOURCE OF INCOMING SYNC PULSES, TWO KIPP RELAYS AND COINCIDENCE CIRCUIT. INCOMING PULSES PASS THROUGH GATE (1) TO KIPP RELAY (3) AND THE REDUCED FREQUENCY IS APPLIED TO THE OUTPUT TERMINAL. PHASING PULSES FROM TERMINAL (6) PASS TO GATE (2). DURING UNSTABLE CONDITIONS RELAY (4) BECOMES EMERGISED CLOSING GATE (1). RESETING OF RELAY (4) STARTS TRANSMISSION OF INCOMING PULSES TO RELAY (3) AND BLOCKS GATE (2) DURING THE SYNC PULSE CYCLE. THE CIRCUIT REDUCES THE OUT OF PHASE PERIOD.

UNCLASSIFIED

UDC: 621.396.61:621.396.2(088.8)

USSR

GEL'CHINSKAYA, E. S.

"A Device for Automatic Frequency Control of a Radio Transmitter Tank Circuit Operating in the Frequency Telegraphy Mode"

USSR Author's Certificate No 259973, filed 16 Oct 67, published 20 May 70
(from RZh-Radiotekhnika, No 11, Nov 70, Abstract No 11D445 P)

Translation: This Author's Certificate introduces a device for automatic frequency control of the tank circuit in a radio transmitter operating in the frequency telegraphy mode. The device contains a keyer, dephasing pickup and r-f exciter. The pickup output is connected to the current transformer of the tank through two channels; each of them contains two electronic keys, a phase detector, a controlled phase shifter and a discrete phase shifter for a 90° phase shift. To improve precision in controlling the tank frequency, the device is equipped with an additional sinusoidal oscillator with a frequency greater than the exciter frequency. The output of this oscillator is connected to the dephasing pickup through two storage phase shifters, each of them mechanically coupled to one of the above-mentioned controlled phase shifters. V. K.

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- 56 -

UDC: 539.3:534.231.1

USSR

GEL'CHINSKIY, B. Ya., KARAYEV, N. A., KOGAN, L. D.

"On the Use of Hilbert Transformation for Group Correlation of Seismic Waves"

V sb. Vopr. dinamich. teorii rasprostr. seysmich. voln. No 10 (Problems in the Dynamics of Seismic Wave Propagation Theory--collection of works. No 10), Leningrad, "Nauka", 1970, pp 121-128 (from RZh-Mekhanika, No 9, Sep 70, Abstract No 9V198)

Translation: For the purpose of finding the envelope of a seismic signal of complex form, the authors propose use of the Hilbert transformation, which is extensively employed in radio engineering for the same goal. The envelope calculating procedure is programmed on a computer, which is used to process seismograms for two-dimensional models with corrugated curvilinear boundaries. The results of the analysis were used for group correlation of waves showing the applicability of the proposed method to the study of dispersion of the group and phase velocities of a seismic signal.

P. V. Krauklis.

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USSR

UDC: 669.783.5:538.2

ZAV'YALOV, V. K., RADOVSKIY, I. Z., LEVIN, Ye. S., NVZOROVA, E. G., GEL'D, P. V.,
Sverdlovsk

"Magnetic Properties of Liquid Alloys of Germanium with Iron, Cobalt and
Nickel"

Moscow, Izvestiya Akademii Nauk SSSR, Metally, No 6, 1973, pp 32-34.

Abstract: This article presents the results of investigation of the magnetic susceptibility of liquid Fe-Ge, Co-Ge and Ni-Ge alloys. The concentration-temperature dependence of magnetic susceptibility was studied by the Faraday method in the 900-1700° C temperature interval. It was found that the Curie-Weiss law is followed in Fe-Ge melts where $N_{\text{Ge}} < 0.7$, in Co-Ge melts where $N_{\text{Ge}} < 0.45$, and is not followed in Ni-Ge melts. The concentration dependences of effective magnetic moments μ_{eff} for Fe-Ge and Co-Ge alloys differ qualitatively. In the first case, the dependence of μ_{eff} on N_{Ge} shows a minimum near $N_{\text{Ge}} = 0.2$, while in the second case μ_{eff} remains independent of concentration approximately up to $N_{\text{Ge}} = 0.15$, then increases from $3.0 \mu_B$ to $3.7 \mu_B$ (at about 30 at. % Ge).

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UDC: [669.15'24/.25+669.245'26]:532.74

USSR

PETRUSHEVSKIY, M. S., GEL'D, P. V., Ural Polytechnic Institute

"Estimation of the Structural Characteristics of Fe-Co, Fe-Ni and Co-Ni Liquid Alloys"

Moscow, Izvestiya Vysshikh Uchebnykh Zavedeniy, Chernaya Metallurgiya, No 12, 1973, pp 11-15.

Abstract: According to the microheterogeneous (cybotaxic) structural model of binary solutions, they consist of microgroupings with predominant bonding between unlike and like atoms. Upon transition from dilute solutions to concentrated solutions, the interaction between unlike atoms is reinforced, causing a reduction in the concentration of pores (holes) and therefore a decrease in the volume (compression) upon formation of alloys. At the same time, the mean coordination number of the melt changes. This article studies a method of estimation of the concentration of pores, the coordination number and the mean interatomic distance within the limits of the first coordination sphere. The method utilizes data on the energies of the interatomic interaction and the molar volumes of the liquid alloys. The structural characteristics and molar volumes of liquid alloys of iron with cobalt and cobalt with nickel are calculated at 1600° C. The pore concentration at molar

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Petrushevskiy, M. S., Gel'd, P. V., Moscow, Izvestiya Vysshikh Uchebnykh Zavedeniy, Chernaya Metallurgiya, No 12, 1973, pp 11-15.

volumes for Fe-Co and Fe-Ni alloys are lower than their additive values. For Co-Ni alloys, these characteristics follow the additive rule.

UDC: 537:538.082.62:546.57

USSR

RYKOVA, M. A., SABIRZYANOV, A. V., and GEL'D, P. V.

"Physical Characteristics of $\text{Cr}_{5-x}\text{V}_x\text{Si}_3$ Solid Solutions at Reduced Temperatures"

Tomsk, Izvestiya VUZ--Fizika, No 7, 1973, pp 134-136

Abstract: This brief communication discusses experimental results of an investigation into some of the physical characteristics of V_5Si_3 with the Tl structure as well as its mutual solid solutions with Cr_5Si_3 . The cylindrical specimens were formed by pressing the melt, impregnated with argon, into quartz tubes 3mm in diameter. The chemical composition of the melt is given. The results are given in the form of curves, such as the specific resistance of $\text{Cr}_{5-x}\text{V}_x\text{Si}_3$ as a function of the temperature and the concentration, the effect of temperature and concentration on the absolute thermal emf of the same substance, and others. The magnetic susceptibility was also studied in fields of 5000-15000 oersteds has a function of the temperature, the latter varying from 78 to 300° K, and the Hall coefficients in this same temperature range were also considered.

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UDC: 546.261:538.632:537.3

USSR

BORUKHOVICH, A. S., GEL'D, P. V., and STARTSEV, V. Ye.

"Galvanomagnetic Characteristics of Monocarbides of the IVa-Va Subgroup Transition Metals"

Tomsk, Izvestiya VUZ--Fizika, No 5, 1973, pp 142-145

Abstract: This brief communication discusses the results of measurement of the galvanomagnetic characteristics of monocarbides, which by composition are closely related to equiatomic varieties. It is noted that such an investigation, even in weak magnetic fields in which the ratio of the mean free path to the radius of the cyclotron orbit is less than unity, is important to establish a connection between these characteristics and those of the electronic structure computed for TiC, ZrC, and NbC. This, in turn, opens the possibility of qualitative interpretation of such kinetic behavior in monocarbides as the Hall effect and reluctance. The experimental data used by the authors for their analysis was obtained in research of the Hall effect and transverse reluctance in $\text{TiCO}_{0.99}$, $\text{ZrCO}_{0.98}$, $\text{NbC}_{1.0}$, and $\text{TaCO}_{0.98}$ specimens at 300 and 20.4° K temperatures and magnetic fields up to 22 kOe. An explanation is found for the difference in Hall coefficients and reluctance values for these various specimens.

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USSR

ZINOV'YEV. V. YE... MASHAROV. S. I.. GEL'D. P. V.

"Kinetic Properties of Rhenium at High Temperatures"

Leningrad, Fizika Tverdogo tela, Vol 15, No 4, 1973, pp 1281-1284

Abstract: The thermal properties of rhenium were studied previously up to 2,400° K [A. V. Arutyunov, L. P. Filippov, TVT, No 8, 1095, 1970]. In the present article a study has been made of the coefficient of thermal diffusivity of rhenium in the temperature range from 850 to 3,000-3,200° K. The measurements were performed on a monocrystalline specimen containing about 99.99% Re which were cut perpendicular to the [1010] axis and were 5 × 5 × 0.3 mm in size. The coefficient of thermal diffusivity was determined by the method of plane thermal waves [V. Ye. Zinov'yev, R. P. Krentsis, P. V. Gel'd, TVT, No 6, 927, 1968; L. P. Gel'd, V. Ye. Zinov'yev, TVT, No 10, 656, 1972] at a frequency of 168.8 hertz in a vacuum of 5.10⁻⁶ mm Hg. The plotted data indicate that the thermal diffusivity of rhenium decreases weakly with temperature. The coefficient of thermal conductivity and the electron component of the thermal conductivity were calculated and also plotted. The increase in the coefficient of thermal conductivity comes from the electron component at the same time as the lattice component $\lambda_g = \lambda - \lambda_e$ decreases with temperature. By comparison with other transition metals λ_g in rhenium is quite large.

1/2 The interpretation of the kinetic properties of Re and its alloys with

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ZINOV'YEV, V. YE., et al., Fizika Tverdogo Tela, Vol 15, No 4, 1973, pp 1281-1284

Mo based on the ordinary Mott model encounters significant difficulties. The Fermi surface of rhenium is also very complicated, but it is noted that alloying of the metal with small groups can lead to a dual situation: 1) the temperature dependence of ρ remains the same as for the pure metal if the small groups do not disappear or reoccur; 2) if the states with the small groups disappear (or turn out to be completely filled), the resistance will be described by a simple relation of the type of $\rho = \rho_0 + AT$ where A is the constant, ρ_0 is the resistance caused by elastic scattering on the admixtures.

It is suggested that this may be the situation in alloys of rhenium with molybdenum and tungsten.

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USSR

UDC: 669.11.24.71:538

KOTOV, A. P., ZELENIN, L. P., BRONFIN, B. M., SIDORENKO, F. A., GEL'D, P. V.,
Ural Polytechnic Institute imeni S. M. Kirov

"Structure and Magnetic Properties of Mutual Solid Solutions of Iron and
Nickel Monoaluminides"

Sverdlovsk, Fizika Metallov i Metallovedeniye, Vol 33, No 3, Mar 72, pp
602-606

Abstract: The lattice period, density, and temperature dependence of susceptibility of solid solutions of $\text{Fe}_{1-x}\text{Ni}_x\text{Al}$ ($0 \leq x \leq 1$) are measured, and their energy spectrum is discussed. The curve for the lattice period as a function of composition shows anomalous behavior: the lattice period decreases linearly with increasing x from approximately 291 pm for iron monaluminide to 288.7 pm for 50 mol.% NiAl, remaining constant above $x = 0.5$. The temperature-dependent part of susceptibility in the intermetallic compounds is attributed to iron atoms. The concentration dependence of the properties of mutual solid solutions of iron and nickel monoaluminides is explained in terms of redistribution of electron densities.

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USSR

UDC 669.15'24-154:534:536.7

PETRUSHEVSKIY, M. S., and GEL'D, P. V., Ural Polytechnic Institute

"Calculation of the Thermodynamic Properties of Liquid Fe-Ni Alloys"

Moscow, IVUZ. Chernaya Metallurgiya, No 12, Dec 72, pp 72-75

Abstract: The effect of short-range order on the thermodynamic properties of liquid binary systems with minute deviations from the law of ideal solutions is considered. The parameters of short-range order, the temperature of blending, and the activity of components are obtained for liquid Fe-Ni alloys at 1600°C. The calculated results coincide with the conclusions of the theory of subregular solutions and the experimental data. Three figures, 11 bibliographic references.

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